

ABSTRACT

A coil-embedded dust core and a method for manufacturing the coil-embedded dust core are provided. The coil-embedded dust core comprises a coil formed from a flat conductor wound in a coil configuration, and a green body consisting of insulating material-coated ferromagnetic metal particles. This results in a coil-embedded dust core more compact in size but with larger inductance. A rectangular wire can be used as the flat conductor. In addition, parts of the coil may function as terminal sections. In this case, the terminal sections of the coil may be formed wider than other part of the coil. The coil-embedded dust core is less prone to joint failures between a coil and terminal sections and to insulation failures of the coil and the terminal section with respect to the magnetic powder. The coil-embedded dust core is more compact while achieving larger inductance.